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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

Project | Date | Author

TITLE

FOREST INSECT SURVEY

SAN BERNARDINO NATIONAL FOREST

Season of 1941

JMM
MLL
WAS
JEP
GTS
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CHE
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By
J. M. Miller
Berkeley, California
December 9, 1941

SUBJECT—

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FOREST INSECT SURVEY
SAN BERNARDINO NATIONAL FOREST
Season of 1941

An examination of the more important pine areas of this forest was made during the period from October 21 to 26, 1941 by J. M. Miller and Donald DeLeon of the Forest Insect Laboratory at Berkeley. Weather conditions during this period were unfavorable for extensive reconnaissance surveys due to poor visibility resulting from fog and storm conditions which covered much of the pine type. The survey was supplemented, however, by information provided by the District Rangers, based on their own recent observations within their districts. This cooperation was most helpful and is greatly appreciated.

HIGHLIGHTS OF THE 1941 INFESTATION

There has been but little change in the general situation from that reported in 1940.

Bark beetle infestations in the ponderosa, Coulter, Jeffrey, and sugar pine types are generally endemic. Potential trouble may develop in 1942 in several small burns in the Crestline and San Jacinto districts where the scorching will render a number of trees attractive to bark beetle attack.

Ips infestations in pinon pine in the Big Bear District still continue. Trees are being killed around the old groups in continuously spreading centers. In the examination of this year a root fungus was found which may be a contributing factor in the persistence of Ips infestations in the pinon type.

Activity of the fir engraver beetle in white fir seems to have increased slightly, but is causing no alarming loss of trees. The California pine scale is still abundant in the Crestline area. There has been some spread into territory adjacent to the centers which were reported in 1939 and 1940. Where the scale has been prevalent for several years, some trees are becoming badly stunted, but there has been little if any mortality of trees that can be attributed directly to the scale.

CONDITIONS BY RANGER DISTRICTS

1. Arrowhead District

Seasonal Conditions

An estimate of the 1941 seasonal loss of pine trees appears on the map attached to this report. In general the loss level is

lower than it has been for several years.

Maintenance control work carried out during January and February 1941 by the Forest Service and the San Bernardino County Zone 5 Flood Control District was efficiently done, and it now seems probable that the 1941 overwintering infestation will be even less than that for 1940. Six infested trees of the 1941 overwintering generation were found during the survey in the Crestline - Arrowhead areas. These were isolated trees with rather heavy broods of the western pine beetle. Since we can expect that there are other trees which will fade later, the total overwintering infestation in the Crestline and Arrowhead units may run somewhere between 25 and 50 trees.

It was not possible to cover the Green Valley area on this examination.

A road strip through Snow Valley gave four Jeffrey pines killed by the pine flathead. Conditions favor a continuing loss in this unit. Flood injury along the stream beds, road grading, and dry sites make this unit quite susceptible to slow-working flathead infestations. Serious epidemic conditions, however, are unlikely.

1941 Control Work

The following summary provided by the San Bernardino office covers the control work recommended in last year's report for the Crestline, Arrowhead, Rim, Green Valley, and Snow Valley units.

Period of control	February 3 to March 9, 1941	
Number trees treated	Private land - 43	Forest Service,- 19
Amount expended	$319.00	$115.81
Balances returned	81.00	84.19
Total allotment	$400.00	$200.00

The plan of using a small crew with an experienced supervisor for a limited period in the late winter seems to have worked out ideally for maintenance control in these areas. An inspection was made by Miller and DeLeon in March 1941, soon after the work was completed. It was found that the technical phases of treatment of infested trees had been efficiently performed, and that all trees which should have been spotted had been located and treated.

Continuation of maintenance control during the coming winter season is again recommended for the Crestline, Arrowhead, and Snow Valley units. The cooperation with the Flood Control District and the organization and plan of the work followed last winter should, if possible, be continued.

Clifton Heights Burn

This recent fire has scorched a large number of trees which will be quite susceptible to bark beetle attack next season. A few trees have

already been attacked by bark beetles in October. This area should be closely watched, and if successful beetle broods develop treatment of the trees should be taken up as part of the maintenance control program.

Pine Leaf Scale

The heavy center of infestation around the Crestline "bowl" and at Thousand Pines shows no signs of decline from natural causes. While some trees which have been heavily infested for a number of years are in very bad condition, none have died as yet from the effects of the scale infestation. This fall new infestations were found near Crestline Village where the scale had not been previously noted.

2. Big Bear District.

Recent snow covered many of the back roads when this district was visited on October 21, and a road strip survey was not attampted. Conditions in each unit were discussed with District Ranger Dave Tucker who had made recent observations in practically all units.

Seasonal Conditions

A close examination was made of the insect infestations in pinon near Baldwin Lake. The fact that this infestation has persisted in local spots around older killings, aroused suspicion that some soil or root condition was at the bottom of the trouble. A number of the dying trees were cut into just below the ground level and a dark wood staining fungus was present in nearly all cases. Material was referred to Forest Pathologist Wagener who later made some collections in the same locality and will report separately. Hopkins 33655. Leptographium lundbergii. See letter from W. W. Wagener of March 12, 1942.

1941 Control Work

Mr. Tucker reported that during the spring and summer active control work had been carried on by private lot owners around Big Bear Lake and by the State Highway Commission along rights of way. In the Big Bear unit 17 Jeffrey pines were treated (9 of these were concentrated on the site of a burned cabin); 15 trees were also treated in the Fawnskin unit. Two trees recently felled for control work were examined and found to contain 1941 overwintering broods of the Jeffrey pine beetle.

The policy which has been followed during the past year of encouraging local owners to do control work, has been producing good results. If this is followed up with enough technical supervision to see that the infested trees are marked by a qualified spotter and that the treating work is done at the right time, it should be possible to keep enough maintenance work going to prevent serious outbreaks in the intensively used areas. This is a service which has been quite successfully carried on by the District Ranger at Big Bear. Much depends on keeping alive the interest of the private owners.

Santa Ana and Mill Creek Units

The Santa Ana and Mill Creek Units were not examined on this survey. Mr. Tucker reported that conditions were endemic and had not changed from those found in 1940 except in the vicinity of Mountain Meadows at the eastern end of the Santa Ana Canyon Unit. Here there has been a perceptible increase in Jeffrey pine losses. Since the infestation is all on private land valued chiefly for range purposes, it is doubtful if control work would be considered by the present owners.

3. San Jacinto Ranger District

Seasonal Conditions

District Ranger Jones met DeLeon and Miller at Idyllwild on October 23 and accompanied them on a reconnaissance of the Idyllwild, Baldy, and Kentworthy Units. It was impossible to obtain views of the San Jacinto infestation unit because of low storm clouds. Mr. Jones reported, however, that current conditions were in general unchanged from those of 1940. During the current season he observed one small, local center where Coulter pines have been dying apparently over a period of several years. There was no evidence, however, of epidemic conditions anywhere in the unit.

Conditions were fairly good for viewing the Idyllwild area and a total of 13 ponderosa and Jeffrey pines and 1 sugar pine, all killed in 1941, were spotted. There was some evidence of Ips activity in the tops of standing green trees. During the summer, 2 large ponderosa pines were topkilled by Ips in the Riverside County camp ground at Idyllwild. Since the killing extended down for 30 to 40 feet, the trees were felled and treated. The tops were found to be infested with Ips, but no Dendroctonus attacks were found in the lower bole. These would no doubt have developed later because of the extent of the crown injury. It would be well to lean toward the conservative side in cutting topkilled trees in maintenance control in recreational areas and to wait until there is good evidence that the lower bole has been attacked. A good many topkilled trees survive where there is an endemic Dendroctonus infestation in the area.

Conditions in Recent Burns, Kentworthy Unit

The Keen Ridge and Garner Valley burns which occurred in July 1941 have left a large number of surviving trees with badly scorched foliage. Trees which had been killed by the fire were already being mined by roundhead and flathead borers at the time of this examination. It can be expected that a large percent of the partially scorched trees will put on new buds in 1942, but that they will be highly susceptible to bark beetle attack next season. At the time of this examination no bark beetle attacks aside from Dendroctonus valens have developed in fire injured trees. The history of burns where similar types of fire injuries have occurred indicates that a concentration of bark beetle infestations will occur within the burn during the first and probably the second year following the fire.

Whether or not these infestations become a threat to healthy trees outside of the burn, depends upon the success of brood development in the fire scorched trees. As a rule, moisture conditions in the phloem of fire scorched trees is unfavorable to larval development so that trees which are heavily attacked may produce little if any emergence of new beetles. However, this is not always the case, and such trees as are attacked in this area during the summer and fall of 1942 should be checked to see if broods are developing successfully. The need for control work will depend upon the character of the infestation in trees of the 1942 overwintering generation. These should be treated if the infestation shows aggressive tendencies.

Recommendations for this district for the coming winter are for maintenance control in the intensively used areas where cooperation on private lands can be secured. The amount of work that may be necessary on Government lands to meet this cooperation is relatively small and should be handled if possible without calling for an allotment from the limited insect control fund available to this region.

Respectfully submitted,

J. M. Miller

J. M. Miller
Senior Entomologist

Berkeley, California
December 9, 1941

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
FOREST INSECT LABORATORY - BERKELEY, CALIFORNIA

FOREST INSECT SURVEY

ARROWHEAD INFESTATION AREA

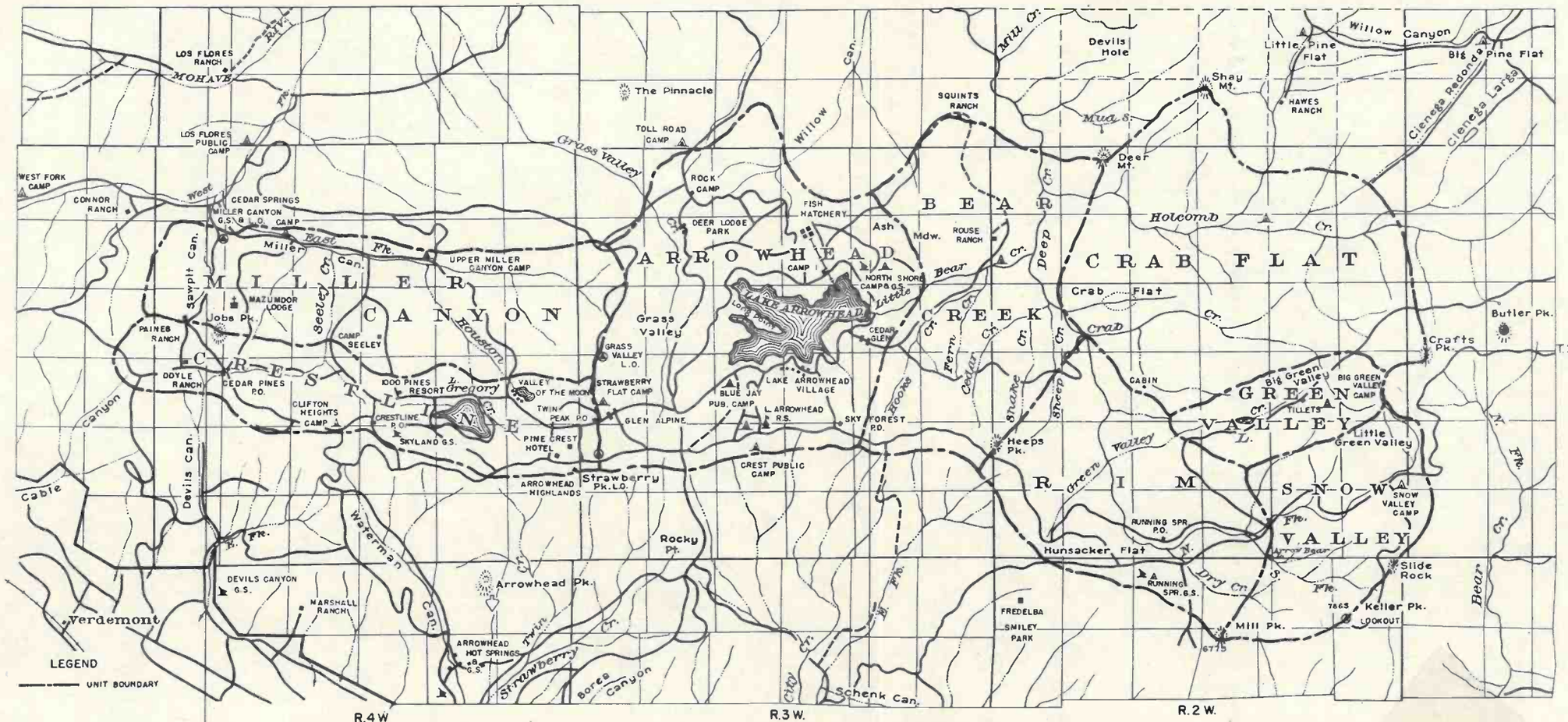
SAN BERNARDINO COUNTY, CALIFORNIA
SAN BERNARDINO MERIDIAN

SCALE
In 0 ½ 1 2 3 Miles

N

ESTIMATED UNIT LOSS - 1941

UNIT	NO. TREES	REMARKS
MILLER CANYON	10	
CRESTLINE	20	
ARROWHEAD	20	
BEAR CREEK	15	
CRAB FLAT		NOT ESTIMATED. TUCKER REPORTS DECLINE IN LOSSES FROM 1940.
RIM	5	
SNOW VALLEY	16	
GREEN VALLEY		NOT ESTIMATED.



MAINTENANCE CONTROL RECOMMENDED FOR CRESTLINE, ARROWHEAD, RIM, GREEN VALLEY AND SNOW VALLEY UNITS.

8/14/39 R.R.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
FOREST INSECT LABORATORY - BERKELEY, CALIFORNIA

FOREST INSECT SURVEY

BIG BEAR INFESTATION AREA

SAN BERNARDINO COUNTY, CALIFORNIA

SAN BERNARDINO MERIDIAN

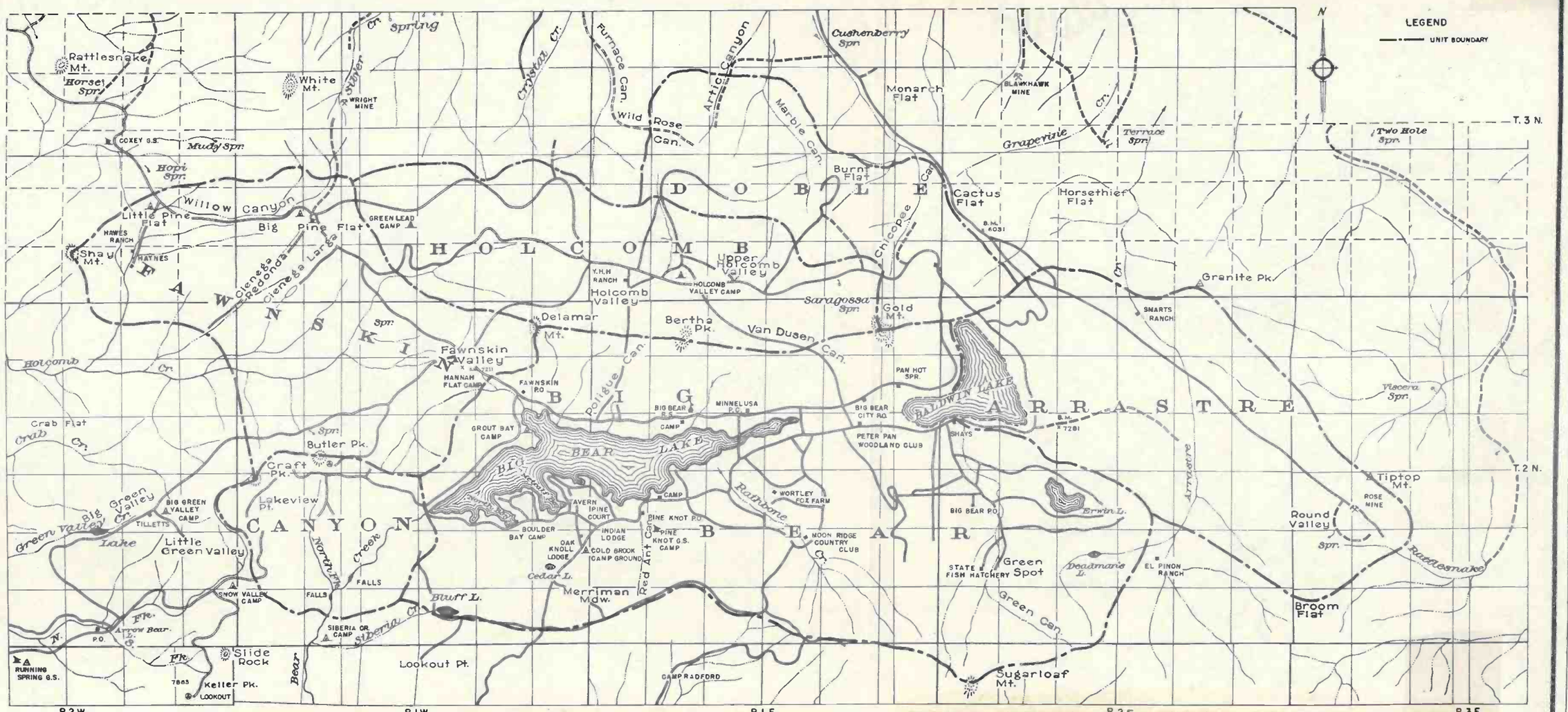
SCALE

In 0 ½ 1 2 3 Miles

ESTIMATED* UNIT LOSS - 1941

UNIT	TREES PINE	TREES PINYON	REMARKS
DOBLE		1000	
HOLCOMB			NO CHANGE FROM 1940
ARRASTRE		1500	
BIG BEAR	35		(17 TREES TREATED)
FAWNSKIN	40		(15 " ")
CANYON	20		NO CHANGES FROM 1940

* ESTIMATES MADE BY DAVE TUCKER



MAINTENANCE CONTROL RECOMMENDED FOR BIG BEAR AND FAWNSKIN UNITS

1/39 R.R.

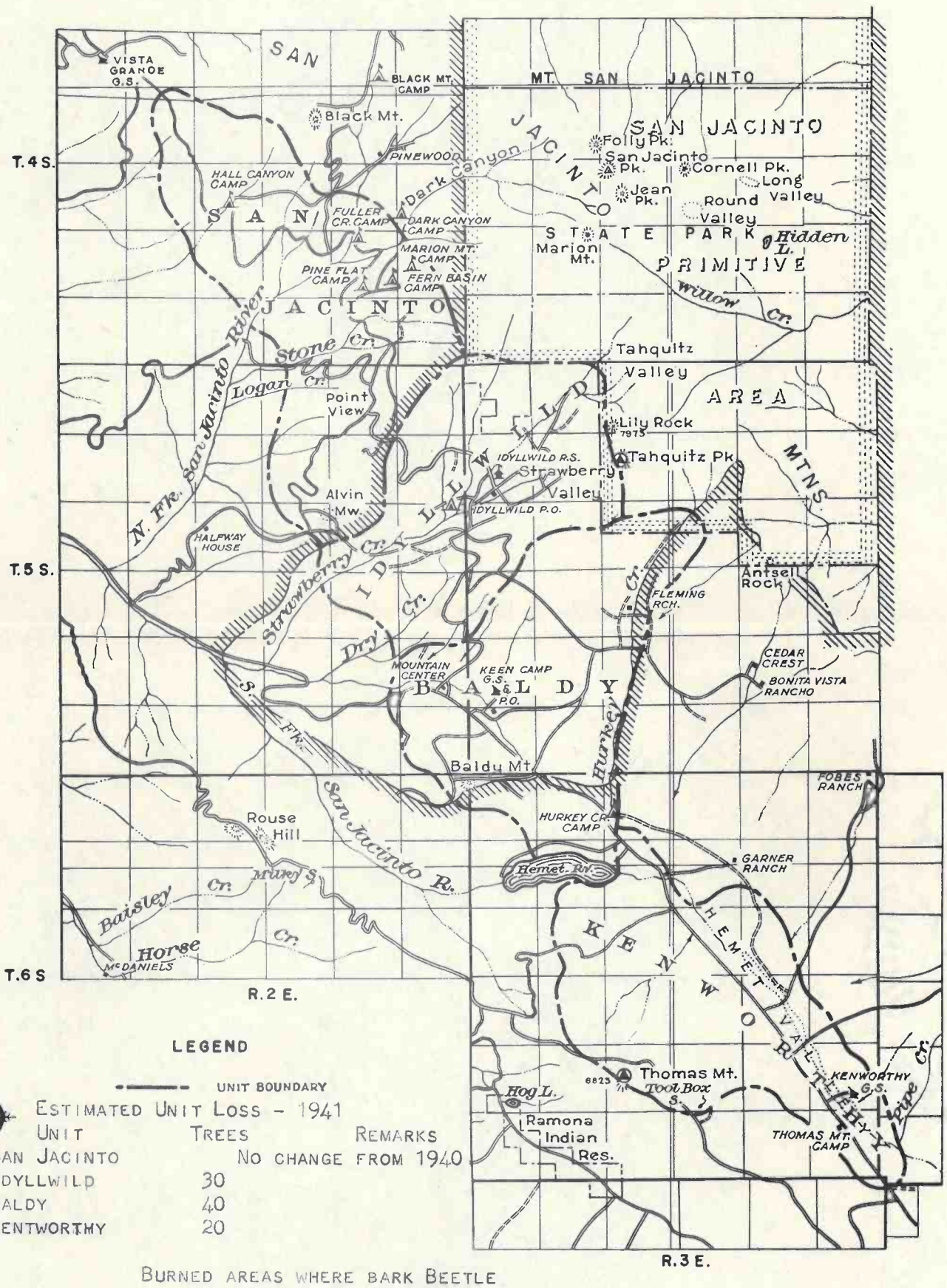
UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
FOREST INSECT LABORATORY- BERKELEY, CALIFORNIA

FOREST INSECT SURVEY

SAN JACINTO INFESTATION AREA

RIVERSIDE COUNTY, CALIFORNIA
SAN BERNARDINO MERIDIAN

SCALE
In 0 ½ 1 2 3 4 Miles



LEGEND

UNIT BOUNDARY

ESTIMATED UNIT LOSS - 1941

UNIT	TREES	REMARKS
SAN JACINTO		NO CHANGE FROM 1940
IDYLLWILD	30	
BALDY	40	
KENTWORTHY	20	

BURNED AREAS WHERE BARK BEETLE INFESTATION MAY CONCENTRATE IN 1942.

8/22/39 R.R.